

Claims

1. Spray head (1), especially for a high-pressure spray gun, comprising a rotary element (3), which is placed in a central body (2) and through which passes a spray nozzle (37), and a seal (4) ensuring leak-tightness between the rotary element (3) and the gun, characterized in that the rotary element (3) has a circular central part (31) comprising the nozzle (37) and introduced into a lateral aperture (21) of the central body (2), the circular central part (31) being brought, by means of an upward translational movement of the central body (2), into a working position against at least one inner abutment located at the top of the central body (2), the nozzle (37) placed in the circular part (31) of the rotary element (3) being in the working position above the top of the central body (2).
2. Spray head according to Claim 1, characterized in that the central part (31) of the rotary element (3) has at least one lateral shoulder (32) taking the form of a spindle which cooperates with a groove-shaped prolongation (22) of the lateral aperture (21) of the central body (2), the groove (22) of the central body (2) making it possible, after the rotary element (3) is introduced into the central body (2), to displace the rotary element (3) towards the top of the central body (2), until the shoulder (32) comes to bear against the inner abutment of the top of the central body (2).
3. Spray head according to Claim 2, characterized in that the rotary element (3) has a second shoulder (32a) of the central part (31), said second shoulder being opposite the first (32) and likewise taking the form of a spindle, the second

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shoulder (32a) cooperating with a groove made on the other side of the central body (2).

- 5 4. Spray head according to Claim 1, characterized in that the seal (4) ensuring leak-tightness between the central body (2) and the gun slides in a bore (30) made in the spindle and at the base of the central body (2), so as to come to bear against the circular central part (31) of the rotary element (3).
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- 15 5. Spray head according to Claim 4, characterized in that the circular central part (31) of the rotary element (3) takes the form of a ball which cooperates with the seal (4) within the central body (2).
- 20 *Sub. A1* Spray head according to Claims 4 and 5, characterized in that the seal (4) has an indentation (41) such that the ball-shaped central part (31) of the rotary element (3) rests on the two edges of the indentation (41).
- 25 7. Spray head according to Claim 4, characterized in that the circular central part (31) of the rotary element (3) takes the form of a cylinder which cooperates with the seal (4) within the central body (2).
- 30 8. Spray head according to Claim 1, characterized in that the central body (2) has passing through it a series of ducts (28) allowing a low-pressure air stream for setting the opening angle of the fluid taper emerging through the nozzle (37), the ducts (28) being located on either side of the nozzle (37) in the direction of the slit.
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9. Spray head according to Claim 1, characterized in that the central body (2) has two diametrically

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opposed stubs (23) in its upper part, the central body (2) having passing through it two complementary ducts (24) which are prolonged within said stubs (23), with outlet orifices (25) directing a low-pressure air stream substantially perpendicularly to the slit of the nozzle (37), against the pressurized fluid taper emerging from the nozzle (37), thus causing the atomization of said fluid taper.

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10. Spray head according to Claim 1, characterized in that each duct (24, 28) has within it, and at its base, a thread (28a) which makes it possible to introduce an interchangeable hollow screw (28b) with different bore diameters.

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11. Spray head according to Claim 1, characterized in that the rotary element (3) has a pin (34) which butts against two rims (26) in the central body (2) so as to be positioned in two ways which correspond to the working configuration and the cleaning configuration of the nozzle (37).

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12. Spray head according to Claim 1, characterized in that the rotary element (3) is connected to a handle (35) which makes it possible to rotate through 180° between the two respective working and cleaning positions.

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13. Spray head according to Claim 1, characterized in that the rotary element (3) is made from steel, stainless steel or chrome steel.

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14. Spray head according to Claim 1, characterized in that the nozzle (37) is manufactured from hard metal, for example from tungsten carbide.

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15. Spray head according to Claim 1, characterized in that the rotary element (3) comprises an O-ring

seal (38) which is manufactured from Teflon and which connects the nozzle (37) to a clamping screw (39).

5 16. Spray head according to Claim 1, characterized in that the central body (2) is manufactured from anodized aluminium, from steel or from a synthetic material reinforced with carbon fibre.

10 17. Spray head according to Claim 6, characterized in that the seal (4) passing through the central body (2) is manufactured from stainless steel or from a reinforced composite material.

15 18. Spray head according to Claim 1, characterized in that it has a seal (5) made from polyamide plastic (nylon) connecting the seal (4) which passes through the central body (2) to the gun.

20 19. Spray head according to Claim 1, characterized in that the seal (4) passing through the central body (2) comprises an O-ring seal (6) which ensures leak-tightness in relation to the central body (2).

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Sub 20. Spray head according to Claim 1 or 2, characterized in that the top of the nozzle, when the latter is in its working position, is located at a distance of 1 to 5 mm from the top of the head.

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21. Spray head according to Claim 9, characterized in that the outlet orifices (25, 50) of the two stubs (23) are arranged so as to direct the additional atomizing air at an angle of 0 to 20° in relation to the axis of the head.

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22. Spray head according to Claim 8, characterized in that the outlet orifices of the ducts (28) are

arranged so as to direct the additional air, making it possible to close and open the angle of the fluid taper, at an angle of  $45^{\circ}$  to  $60^{\circ}$  in relation to the vertical axis of the head.

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23. Head according to Claim 1, characterized in that the rotary element or key (3) is introduced into the head along an axis perpendicular to the line connecting the two stubs (23) placed at the top of the head (2), the slit of the nozzle likewise being perpendicular to this line (Figures 1 to 7).

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24. Head according to Claim 1, characterized in that the rotary element or key (3) is introduced into the head (2) along an axis of  $45^{\circ}$  in relation to the line connecting the two stubs (23) placed at the top of the head (2), the slit of the nozzle forming an angle perpendicular to this line (Figures 8 to 11).

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